more easy of reference to the reader, than when relegated to plates at the end of a memoir.

Fashion in Deformity, as Illustrated in the Customs of Barbarous and Civilised Races. By William Henry Flower, LL.D., F.R.S., F.R.C.S., &c. With Illustrations. 8vo, pp. 85. (London: Macmillan and Co.)

IF Prof. Flower by this little work has not rendered good service to medicine, and tended greatly to prevent the diseases due to the prevalence of absurd fashions, it is certainly not his fault. He discusses the curious fashion which has prevailed among all nations, of inflicting upon themselves serious pain and inconvenience, as well as rendering themselves abominably ugly, in their endeavours to conform to a false standard of beauty. He begins with the epidermal appendages—nails, hair, teeth, and skin, proceeding to alterations in the bony skeleton. After discussing the modes of dressing the hair, the first figure he gives is that of the hand of a Chinese ascetic, in which the finger nails appear to be nearly a foot long, and twisted almost like the tendrils of a vine. The custom of tattooing perhaps inflicts upon the votary of fashion more pain than almost any other. The process varies from making gashes with sharp stones, and rubbing wood-ashes into them, to pricking delicate patterns into the skin by pieces of shell cut into a number of fine points, or by a bundle of sharp needles, and then rubbing colouring-matter into the punctures. The custom of wearing rings and plugs in the lips, nose, and ears is sometimes carried to a most exaggerated extent, one man, in an island near New Guinea, having such holes in his ears, that the lobes were converted into great pendants of skin, through which he could easily pass his arms. Such deformities of fashion, although most disagreeable to our ideas, are of much less importance than those which affect the bony skeleton. The author gives a full description of the various modes of altering the shape of the head adopted by various tribes, and of deforming the foot amongst the Chinese. But from savage tribes, Mr. Flower passes on to deformity in fashion amongst ourselves. He shows, by drawings of deformed English feet, and of the modern Parisian shoe, that, much as we may ridicule the Chinese, we are very little better than they. In one particular, indeed, we may be said to be very much worse than either Chinese or savages; for, while they deform the foot, we deform that part of the body which contains our vital organs. How far removed from nature is the form imparted to the figure by fashion, is seen by comparing the figures of the Venus of Milo, and of a lady dressed in the fashion of 1880.

We fear that no amount of warning regarding the pain, suffering, and danger to life which such fashions entail, will ever prevent them from being followed; but it is possible that when fashionable people come to see that their absurdities reduce them to the same level of taste as a Botocudo Indian or Bongo Negro, they may be induced to seek after a higher standard, which shall at once be beautiful, and true to nature.

Cameos from the Silver-Land; or, The Experiences of a Young Naturalist in the Argentine Republic. By E. W. White. In two Volumes. Vol. I. (London: John Van Voorst, 1881.)

THIS is the first volume of an interesting work which would appear to give a true and vivid sketch of the great Argentine Republic as it is at the present day. The great Republic seems, by the test of the London Exchange, to be well holding its own, but the notions current in England about it are often absurd in the extreme. Mr. White has in this volume given us a very good guide-book to the province, detailing the chief peculiarities of its climate, giving an account of its various races, of the state of the education of the people in the province, and of its natural resources. Buenos Ayres is described in a very enthusiastic way, and the behaviour of its inhabitants is spoken of in glowing terms. The first few chapters are devoted to the experiences of our young naturalist in the large cities. When he left these for trips to Cordoba and such like distant places his experiences as a naturalist began, and we follow such wanderings with real pleasure. At one time he journeyed to Cosquin to hunt the Condor; again to Mendoza for the Guanaco; but wherever he went he was sure to observe and record some interesting incident about the flowers and birds and insects that he met with.

Select Extra Tropical Plants Readily Eligible for Industrial Culture or Naturalisation, with some Indications of their Native Countries and some of their Uses. By Ferdinand, Baron von Mueller, K.C.M.G., M.D., F.R.S. New South Wales Edition, enlarged. (Sydney: Government Printers, 1881.)

IT would be difficult to convey an accurate idea of the large amount of information which the author has brought together within the compass of the 400 pages forming this volume, an edition of which was some years ago published by the Victoria Acclimatisation Society, and also not long since in Calcutta by the Central Government of India. While the present edition does not put in a claim for completeness, either as a specific index or as a series of notes on the respective technologic applicability of the plants enumerated, still, we have here brought together an immense assemblage of useful plants arranged in alphabetical order, but with a systematic index and also their correct scientific names, and the chief facts of interest that concern each as to its uses to mankind. Some of these plants, all of which are presumed to be capable of cultivation in extra-tropical countries, are good for food, either as yielding pot-herbage, or roots, or fruits. Others are useful for dyes, for their fibre, as fodder-plants, as medicinal plants, or as timber-trees. The information in all cases is given in the fewest possible words. Baron von Mueller is to be congratulated on the honourable part he has taken now for many years in enriching the culture-resources of his adopted country, and we echo his hope that this most valuable manual of useful plants may be placed in the leading library of every State school in the Australian colonies, when it will be sure to aid in educating the youth instructed therein, in a special knowledge that may be of immense service in the future of Australasia.

E. P. W.

LETTERS TO THE EDITOR

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts. No notice is taken of anonymous communications.

[The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to ensure the appearance even of communications containing interesting and novel facts.]

Vignettes from Nature

IF Mr. Grant Allen does not mean what he says, I should strongly recommend him, alike for his readers' sake and his own, to say what he means.

When he wrote, "As a matter of fact, it seems probable that our *actual* fauna and flora are on the whole not only quite as big as any previous ones, but even a great deal bigger," and went on to cite the "modern" whales, the "living" forty-feet shark, and the elephants of the "recent period" (which not I, but his friendly reviewer, Mr. Wallace, converted into the "present time"), I naturally understood him to mean that the "actual," "modern,' or "living" forms of these types are larger than any corresponding "extinct" forms of the same. It now appears, however, that he meant to include *extinct* whales, *extinct* sharks, and the *extinct* mammoth (with, of course, its contemporaries) as members of the "actual" fauna.

To me it seems far better that science should not be taught to

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the public at all than that by the the use of the "vague but comprehensible language of ordinary life," such erroneous ideas should be propagated. I can assure Mr. Grant Allen, from no small experience of popular science-teaching, that the public mind is quite capable of drawing a very clear distinction between "living" and "extinct" animals, and would urge him to keep that distinction steadily in view in anything he may hereafter write on the subject.

With reference to the sharks' teeth brought up in the *Challenger* dredgings, in that part of the Pacific between Polynesia and South America, I may mention that only within the last week I have seen a collection of sharks' teeth from a "coprolite" digging in South America, among which was one of five inches by four, closely corresponding in its mineralised condititition with the large *Challenger* teeth; and associated with them were rolled fragments of elephantine molars, presumably *Mastodon Andium*. And yet, according to Mr. Grant Allen, they belonged to our *actual* fauna! W. B. CARPENTER

56, Regent's Park Road, London, N.W., March 20

Fisher's "Earth's Crust"

THE verdict of NATURE on the Rev. O. Fisher's "Physics of the Earth's Crust" is that "One or two points do seem to emerge from this assemblage of calculation as fairly clear and established on tolerably firm foundation. Such as that the contraction of the earth by cooling is inadequate to the production of its greater inequalities." . . That "there must be subterranean irregularities of density." I ask for a fresh trial on the ground that the evidence is insufficient.

On the first head, what Mr. Fisher has done is this. He has started with the assumption that no part of the earth became solid till the whole had cooled down to a uniform temperature of 7000° F. With this and some other minor assumptions he has been led to the conclusion stated above. And he has high authority on his side, for this is the assumption made by Sir W. Thomson in his well-known paper, "On the Secular Cooling of the Earth." But the facts that an assumption is not in itself physically impossible, and that it enables you to integrate a tiresome differential equation and obtain numerical results, are not sufficient to establish the truth of the assumption. There are other ways in which the earth may have passed from a fluid to a solid state, some of them, to say the least, quite as probable as that which Sir W. Thomson adopts. I very much fear then that Mr. Fisher cannot be said to have established even his negative proposition. Indeed, to my mind, Mr. Fisher's work seems rather to show that the earth did not consolidate in the way supposed by Sir W. Thomson.

The second point, strongly insisted on not only by Mr. Fisher but by many other eminent physicists, which the reviewer looks upon as finally settled, is the doctrine that the material of the crust must be denser beneath the ocean basins than beneath continents. The belief is grounded on the following argument. If this were not so, the preponderance of land on the northern hemisphere would attract the water, and the consequence would be that the sea-level would be higher in the northern than in the southern hemisphere. The answer is: How do we know that this is not so? At the outside the difference of level would not amount to more than a few hundred feet, and what is there to prove that the mean level of the sea in St. George's Channel is not a few hundred feet farther from the earth's centre than the mean level of the sea at the point diametrically opposite. It might be so, and we should none of us be a bit the wiser. The famous Indian deviation of the plumb-line, too, can hardly be looked upon as conclusive, when we reflect that it has been found capable of explanation in several ways by the ingenuity of the former Astronomer-Royal and the late Archdeacon Pratt. No problem that admits of several solutions can be appealed to as conclusive on a point like this. Mr. Fisher's treatment of the Revelations of the Thermometer cannot either be accepted as satisfactory. Any one who has roughly plotted to scale a section over the St. Gothard sees that a segment of a circular cylinder does not represent, even to a very loose degree of approximation, the contour of the mountain.

The reviewer speaks of the cause to which Mr. Fisher would assign the contortion of the rocks of the earth's crust as hardly adequate; he might have safely gone further. That cause is the injection of lava into fissures, or, in other words, the formation of dykes. That contorted rocks are often traversed by countless dykes is a well-known fact. Take for instance the dykes which seam so thickly the Palæozoic rocks of Scotland; but here the dykes were formed long after the contortions, and besides their general direction does not coincide with the longer axes of the folds into which the rocks have been bent. In other cases of violently-contorted rocks there is a striking absence of dykes; this is so along the coast of Glamorganshire and Pembrokeshire, where we have about the most marked case of intense folding and inversion in the British Isles. And this is still more strikingly the case in that marvellous example of contortion and inversion to bs seen in the Canton of Glaurus, which has been so graphically described by Heim. Nowhere, as far as we know, on the earth's surface has inversion gone to the length it has here; dykes do traverse the Palæozoic rocks, but they none of them run up into the Secondary and Tertiary beds, and the contortion did not begin till towards the end of the Eocene period.

I for one should be only too relieved to think that some certainty, even if it were only of a negative kind, had been arrived at in the problems of the Physics of the Earth's Crust, but I fear we are a long way off this happy consummation at present. A. H. GREEN

Yorkshire College, Leeds, March 14

An Equatorial Solar Spot

THE occurrence of a spot close to the equator is so rare a phenomenon that it may interest some of your readers to know that there is such a spot now on the disc.

On the 6th I noticed a spot, not long entered, and close to the equator; it was a large, well-defined, regular, oval spot, with a mag. axis exactly parallel to the sun's equator. On the 10th, at 10h. 45m. G. Astron. Time, this spot crosssed the prime meridian, at a distance from the centre of the disc equal to 0·120 the radius, measured towards the true north limb, in the direction (156°–336°), *i.e.* parallel to the sun's axis.

This distance, 0·120 R., corresponds to hel. lat. 6°·9, measured from the centre towards the north; therefore, as the latitude of the centre is now 7°·2 south, the true hel. lat. of the spot is 0°·3 S.

The observations for determining the place of the spot were made on the 10th at 4.45, and on the 11th at 12.45; during the interval the spot had crossed the prime meridian, and the "position" of the axis of the spot, which had remained constant from the 6th till 4.45 on the 10th, had, during the interval, changed from (90°–270°), having reference to the sun's axis, to (38°-218°), *i.e.* 52° in 20 hours.

There was no further change from 12.45 to 4.45 on the 11th: and on the 12th the character of the spot was so altered that you could not distinguish any maj. axis at all. The instrument used was the 7½-inch equatoreal refractor. WENTWORTH ERCK

Sherrington, Bray, Co. Wicklow, March 13

Seasonal Order in Colours of Flowers

SIX years ago the question was brought forward in this journal (Vol. xiii. p. 427) whether light has any influence on the colour of flowers. I then called attention to the experiments made by Askenasy in 1875 (*Botanische Zeitung*, 1876, No. 1), from which he inferred that the action of light was different, some flowers being changed by darkness, but others not. Having myself from time to time studied this subject, I have seen, like other observers, that several kinds of pigment appear in complete darkness, but that in many of these cases daylight strengthens the tint and increases the hue. Not only flowers, but also other parts of the plant are thus affected. I found for instance that the shoots of several potatoes grown in the dark were coloured pink, that a bud of an elder-tree formed under the same circumstances two red-coloured internodes, and that crocuses, tulips, and hyacinths produced coloured flowers, whereas *Aucuba japonica* gave red-coloured fruits. It seems from these experiments that the plant is able to produce colouring matter without help from any source of light. But it is an important fact that the colours formed in the dark and those formed in the light often do not possess the same beauty. To prove this, I raised a bulb of hyacinth with two buds (or "noses" as they are called by Dutch florists); one of the two buds was covered by a piece of thick opaque paper to prevent the sun shining upon it, while the other bud was uncovered, and thus could enjoy the sun's influence. After some weeks the difference was very marked, the covered flowers being less intensively coloured than the others. This way of experi-

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